

CLAIMS

What is claimed is

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1. A device for producing a signal at a hand part simulating the interaction between an interactive entity and a virtual or physical object, said device comprising:

means for generating a force simulating the interaction between said interactive entity and said object; and

means for applying a change in physical condition to said hand part or a second hand part; and

at least one of:

(a) means for applying said generated force between said hand part and another body part which serves as a non-sensing part; or

(b) means for applying said generated force to said hand part, said applying means comprising an entity displaced from said hand part in a first unactivated position and touching said hand part in a second activated position.

2. A device according to Claim 1, wherein said means for applying a change in physical condition to said hand part comprises at least one of heat and/or cooling means or pressure means.

3. A device according to Claim 2, wherein said heat means comprises a heating element.

4. A device according to Claim 2, wherein said cooling means comprises a circulating cooling fluid.

5. A device according to Claim 2, wherein said pressure means comprises at least one diaphragm or bellows.

6. A device according to Claim 1, wherein said means for applying said generated force to said hand part comprises said means for applying a change in physical condition.

7. A device according to Claim 1, further comprising:

second force generating means;

means for applying said second generated force to said hand part to produce a displacement of one or a plurality of texture elements, each element comprising an extendable and retractable pin or a focused fluid stream.

8. A device for producing a signal at a sensing body part simulating the interaction between an interactive entity and a virtual or physical object, said device comprising:

means for generating a force simulating the interaction between said interactive entity and said object; and

positioning means for spatially positioning said second body part; and

at least one of:

(a) first means for applying said generated force between said sensing body part and a second body part which serves as a non-sensing part; and

(b) second means for applying said generated force to said sensing body part, said applying means comprising an entity displaced from said sensing body part in a first unactivated position and touching said sensing body part in a second activated position.

9. A device according to Claim 8, further comprising means for applying a change in physical condition to said hand part or a second hand part.

10. A device according to Claim 8, further comprising:

second force generating means;

means for applying said second generated force to produce a displacement of one or a plurality of texture elements, each element comprising an extendable and retractable pin or a focused fluid stream.

11. A device according to Claim 10, further comprising means for applying a change in physical condition to said hand part or a second hand part.

12. A device according to Claim 8, wherein said sensing body part is a hand part and said positioning means comprises:

a wrist band;

means for moving said wrist band in response to said interaction; and

support means for supporting said moving means.

13. A device according to Claim 12, wherein said moving means comprises one of:

- (a) i. a multiarticulated system, wherein the elements of the system are connected by a revolute or prismatic joint; and
- ii. motor means for actuating said joints;
- (b) at least one rigid extensible and retractable element;
- (c) at least two flexible retractable elements.

14. A device according to Claim 2, wherein said pressure means comprises at least one voice-coil actuator.

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